

**REMARKS**

Claims 16-26 are pending in the present application.

Claims 1-15 have been cancelled without prejudice.

Claims 16-26 are new. Support for the new claims can be found throughout the specification, for example, claim 16 is based on original claims 2 and 7 and additional support is located at least in the written description in paragraph 11. Claim 17 is based on original claim 8. Claim 18 is based on original claims 9 and 2. Claim 19 is based on original claim 5. Claim 20 is based on original claim 1. Claim 21 is based on original claim 14. Claim 22 is based on original claim 3. Claim 23 is based on original claim 4. Claim 24 is based on original claim 10. Claim 25 is based on original claim 5. Support for claim 26 can be found in at least Example 5 on page 10, where the copolymerized polyamide material A and the copolymerized polyamide in the adhesive include the same polyamide units. Accordingly, no new matter is being added by way of these amendments and entry of this Amendment is respectfully requested.

***Rejections under 35 U.S.C. § 102 (b) and 35 U.S.C. § 103 (a)***

The Examiner maintains the rejection of claims 7-8 and 11-12 under 35 U.S.C. § 102 (b) as being anticipated by WO 90/05756 to the Australian Gas Light Company (“AGLC”) and also rejects claims 1-5 and 14 under 35 U.S.C. § 102 (b) as being anticipated by Akkapeddi et al. (“Akkapeddi”). Also, claims 10 and 15 were rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 4,163,826 to Kawaguchi.

Also, the Examiner maintains the rejection of claims 9, 13, and 15 under 35 U.S.C. § 103 (a) and adds a rejection of claim 6 under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 4,400,019 to Fruck (“Fruck”) in view of Akkapeddi.

In view of the fact that the above rejected claims are now cancelled, the rejections are rendered moot, however, the new claims will be discussed with respect to the prior art references.

Claims 16-26 are clearly not anticipated by or obvious over AGLC. AGLC is clearly directed to bonding products that are made from homo-polyamides (i.e., single kind of polyamide unit) together with solvent adhesives. Contrary to the Examiner’s assertions, AGLC is not directed to copolymerized nylons, as indicated by the paragraph bridging pages 4 and 5 of

AGLC, and as discussed below. Despite the fact that AGLC uses the term “copolymerized” (see page 5 line 3) and uses seemingly similar nomenclature (which actually indicates different types of compounds than those of the present invention, as discussed in the previous Office Action Response, dated March 22, 2005), the “polyamide **block** copolymers” disclosed in AGLC do not anticipate or obviate the claimed invention. (See, p. 12, line 2 (emphasis added)).

It is respectfully submitted that the Examiner’s assertion that a polyamide block copolymer is a copolyamide is not accurate. AGLC states “[a]lthough exemplified by reference to bonding of polyamides it is anticipated that adhesives according to the invention may be used to bond other materials for example polyamide block copolymers, branch chain polyamides, etc. . . .” (See paragraph bridging pages 11 and 12, emphasis added). It is well known in the industry that copolyamides are not block copolymers, but rather are inevitably random copolymers produced by an amide exchange reaction between two or more polyamides. Therefore, the “polyamide block copolymer” of AGLC does not mean a “copolyamide,” but means a copolymer of a block of polyamide units and a polymer other than a polyamide (i.e., an “other material”). The statement “other materials for example polyamide block copolymers” clearly shows that AGLC acknowledges that the polyamide block copolymer is not a polyamide. Accordingly, AGLC does not describe the use of the joint comprising the copolymerized nylon in the case where the nylon resin molding is adhered to the joint using the solvent adhesive.

Also, AGLC does not disclose or suggest that an effective adhesive layer can be formed by using the joint made of a copolymerized nylon in the case where the nylon resin molding is adhered to the joint using the solvent adhesive, and that by using this method a high peel strength can be obtained. Nor does AGLC disclose or suggest that the adhesive strength of the nylon resin molding and the joint can be improved. Finally AGLC does not disclose the use of a copolymerized nylon blend.

Turning to the other prior art references, Akkapeddi and Fruck are improperly combined. Akkapeddi discloses the manufacture of various copolyamides and copolyamide blends, however, it fails to disclose any adhesive properties of these materials. Fruck discloses the adhesion of multilayered pipe that are made of layers of polymers and metal. The pipes are constructed this way, as Fruck discloses, to prevent the metal from premature corrosion and to lend some structural support (to withstand high pressures) to the plastic piping, among other functions. (See col 1 ln 6-11, col 3 ln 50-60 and col 4 ln 57-60) One of ordinary skill in the art

would not be motivated to combine Akkapeddi and Fruck because they are directed to achieving two different goals. Also, neither reference contains any motivation to combine any aspect of the two. Nor has the Examiner pointed to any such motivating disclosure.

Additionally, the present invention shows a significant and surprising improvement in adhesion over the prior, art as shown for example, in Example 5. The use of a solvent adhesive containing a copolymerized nylon (copolyamide of nylon 6 / nylon 12) to adhere a material containing a copolymerized nylon (copolyamide of nylon 6 / nylon 12) to a material containing nylon 12 demonstrated great peel strength (168.2 N) over the other examples as shown in Table 2 of the instant application and is also below, for the Examiner's convenience.

Table 2

	Material A to be adhered	Material B to be adhered	Kind of Nylon in Adhesive	Peel Strength (N)
Example 4	nylon 12	nylon 12	nylon 6/-nylon 12 =25/75	47.9
Example 5	nylon 6/-nylon 12 =40/60	nylon 12	nylon 6/-nylon 12 =25/75	168.2
Comparative Ex. 4	nylon 12	nylon 12	nylon 11	30.1
Reference Ex. 1	nylon 6/-nylon 12 =40/60	nylon 12	nylon 11	130.4

As can clearly be seen from Table 2, Example 5 has a much higher peel strength than that of Comparative Example 4 where only nylons are used in the materials to be adhered and in the adhesive.

Moreover, further evidence of unexpected and significant improvement via the present invention is shown in Table 1, below. Each time a copolymerized nylon, (*i.e.*, two kinds of polyamide units such as nylon 6 and nylon 12) is used, the Peel Strength is greatly increased as in Examples 1, 2, and 3. In fact, the Peel Strength is over three times that of the comparative examples, when looking at Examples 2 and 3.

Table 1

	Material A to be adhered	Material B to be adhered	Peel Strength (N)
Example 1	nylon 12	nylon 6/nylon 12 =80/20	86.5
Example 2	nylon 12	nylon 6/nylon 12 =40/60	105.1
Example 3	nylon 12	nylon 6/nylon 12 =25/75	106.1
Comparative Ex. 1	nylon 12	nylon 12	9.0
Comparative Ex. 2	nylon 12	nylon 11	31.2
Comparative Ex. 3	nylon 12	nylon 6	34.8

Therefore, claims 16-26 are not anticipated by or obvious over AGLC, Fruck, Akkapeddi, and/or Kawaguchi, either taken alone or in combination. Accordingly, it is respectfully requested that the rejections be removed and that the pending claims be allowed.

Respectfully submitted,

Noriyuki ISOBE, et al.

Sept. 6, 2005  
(Date)

By:



**COLLEEN R. BUTCHER**

Registration No. 56,315

**AKIN GUMP STRAUSS HAUER & FELD LLP**

One Commerce Square

2005 Market Street, Suite 2200

Philadelphia, PA 19103-7013

Telephone: 215-965-1200

**Direct Dial: 215-965-1372**

Facsimile: 215-965-1210

E-Mail: [cbutcher@akingump.com](mailto:cbutcher@akingump.com)

ARE/CRB:cmb  
7453612